Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1-14. (Cancelled)

15. (Currently Amended) A plastic recycling process, comprising:

receiving a plastic-rich mixture that includes at least two types of plastics;

determining the plastic-rich mixture to have at least one property, wherein the property is the amount of metal in the mixture, a range of densities, a difference in thicknesses, friction, adhesion or elasticity, different relative charging characteristics, different conductivity, an amount of trapped moisture or gases, a range of colors, a particle size or a difference in viscosity;

selecting, based on the at least one property, at least six processes for processing the plastic-rich mixture, wherein the selection is based on a type of a feed source for the plastic-rich mixture, a geographical origin of the feed source, or a temporal distribution of the types of plastics in the mixture, wherein the at least six processes comprise the following sequence of processes in an order of:

a) a preprocessing step;

b) a size reduction step;

c) a surface to mass control process, which involves ~~sorting by thickness,~~ sorting with an air table~~, sorting with an air classifier, screening, or tabling~~ and which results in two or more fractions that each have ~~achieves~~ a narrow distribution of surface to mass ratios;

d) a separation process which separates a first plastic type from a second plastic type and is enhanced by the narrow surface to mass distribution, the process involving either electrostatic sorting, froth flotation, or density differential alteration, wherein the two or more

fractions resulting from the surface to mass control process are treated by the separation process separately from one another;

e) a blending step; and

f) an extrusion step;

subjecting the plastic-rich mixture to the sequence of processes; and

collecting a recycled plastic material as an output of the sequence of processes.

16. (Withdrawn) The process of claim 15, wherein:

selecting the processes includes determining a desired recycled plastic material and selecting the processes to cause the recycled plastic material to include the desired recycled plastic material.

17. (Canceled)

18. (Withdrawn) The process of claim 15, wherein:

subjecting the plastic-rich mixture to the sequence of processes includes separating the plastic-rich mixture into different grades of plastic material.

19. (Withdrawn) The process of claim 15, wherein:

subjecting the plastic-rich mixture to the sequence of processes includes separating the plastic-rich mixture into different types of plastic material.

20. (Withdrawn) The process of claim 15, further comprising:

selecting the plastic-rich mixture from a source selected from the group consisting of white goods, office automation equipment, consumer electronics, automotive shredder residue, packaging waste, household waste, building waste, industrial molding and extrusion scrap according to one or more desired properties of the recycled plastic material.

21. (Withdrawn) The process of claim 15, further comprising:

selecting the plastic-rich mixture based on a geographic location of origin of the plastic-rich mixture.

22. (Withdrawn) The process of claim 15, wherein:

selecting the properties includes determining one or more desired properties of the recycled plastic material.

23. (Withdrawn) The process of claim 15, wherein:

one or more of the processes is repeated in the sequence of processes.

24. (Canceled)

25. (Withdrawn) The process of claim 15, further comprising:

compounding the recycled plastic material with one or more additives.

26. (Withdrawn) The process of claim 15, wherein:

collecting a recycled plastic material as an output of the sequence of processes includes collecting a plurality of recycled plastic materials.

27. (Withdrawn) The process of claim 15, wherein:

the size reduction step includes reducing the average size of plastic particles in the sequence of processes from about 75 mm to less than about 8 mm.

28 - 29. (Canceled)

30. (Withdrawn) The process of claim 15, wherein:

the preprocessing step including air aspiration.

31. (Withdrawn) The process of claims 15, wherein:

subjecting the plastic-rich mixture to a sequence of processes includes subjecting the plastic-rich mixture to one or more wet granulation size reduction operations.

32. (Withdrawn) The process of claim 15, wherein:

subjecting the plastic-rich mixture to a sequence of processes includes subjecting the plastic-rich mixture to one or more gravity concentration operations.

33. (Withdrawn) The process of claim 32, wherein:

subjecting the plastic-rich mixture to one or more gravity concentration operations includes subjecting the plastic-rich mixture to a gravity concentration operation using solid particle media.

34. (Withdrawn) The process of claim 15, wherein:

subjecting the plastic-rich mixture to a sequence of processes includes subjecting the plastic-rich mixture to one or more truncated cone hydrocyclones or elutriators to remove metal or non-target plastics from the plastic mixture.

35. (Withdrawn) The process of claim 15, wherein:

subjecting the plastic-rich mixture to a sequence of processes includes subjecting the plastic-rich mixture to an arrangement of three consecutive gravity operations.

36. (Withdrawn) The process of claim 35 wherein:

subjecting the plastic-rich mixture to an arrangement of three consecutive gravity concentration operations includes subjecting the plastic rich mixture to a modified hydrocyclone to remove metal, a modified hydrocyclone to remove high density plastics and a hydrocyclone to separate low from medium density plastics.

37. (Withdrawn) The process of claim 15, wherein:

receiving a plastic-rich mixture includes receiving a plastic-rich mixture including HIPS, ABS and SAN;

subjecting the plastic-rich mixture to a sequence of processes includes subjecting the plastic-rich mixture to a gravity concentration operation to create a first stream having a higher percentage of HIPS than the plastic-rich mixture and a second stream having a higher percentage of ABS and SAN than the plastic-rich mixture and the first stream.

38. (Withdrawn) The process of claim 15, wherein:

receiving a plastic-rich mixture includes receiving a plastic-rich mixture including a first grade of a first plastic type and a second grade of the first plastic type; and

subjecting the plastic-rich mixture to a sequence of processes includes subjecting the plastic-rich mixture to a gravity concentration operation to create a first product stream and a second product stream, wherein the first product stream has a higher percentage of the first grade of the first plastic type than the plastic-rich mixture and the second product stream has a higher percentage of the second grade of the first plastic type than the plastic-rich mixture and the first product stream.

39. (Canceled)

40. (Withdrawn) The process of claim 15, wherein:

subjecting the plastic-rich mixture to a sequence of processes includes subjecting the plastic-rich mixture to a sliding chute device that removes rubber.

41-44. (Canceled)

45. (Currently Amended) The process of claim 15, wherein:

subjecting the plastic-rich mixture to a sequence of processes includes prior to the separation process that is enhanced by the narrow surface to mass distribution, subjecting the plastic-rich mixture to a gravity concentration operation to create one or more streams of plastic material, followed by the separation process that is enhanced by the narrow surface to mass distribution, wherein the separation process that is enhanced by the narrow surface to mass distribution is a triboelectrostatic separation of one of the one or more streams of plastic material.

46. (Currently Amended) The process of claim 15, wherein:

~~the surface to mass control process recovers a plurality of products and the sequence of processes includes subjecting at least one of the plurality of products to~~the separation process that is enhanced by the narrow surface to mass distribution is a triboelectrostatic separation.

47. (Previously Presented) The process of claim 15, wherein:

the separation process enhanced by narrow surface to mass distribution is a triboelectrostatic separation.

48. (Previously Presented) The process of claim 47, wherein:

subjecting the plastic-rich mixture to a triboelectrostatic separation includes subjecting the plastic-rich mixture to a triboelectrostatic separation in which a charge mediating material is added.

49. (Previously Presented) The process of claim 47, wherein:

subjecting the plastic-rich mixture to a tribelectrostatic separation includes tuning a triboelectrostatic separator, including selecting a geometry of the triboelectrostatic separator, selecting a charge of charge plates of the triboelectrostatic separator, selecting an angle of the charge plates, or selecting a voltage applied to the charge plates.

50. (Previously Presented) The process of claim 47, wherein:

subjecting the plastic-rich mixture to a tribelectrostatic separation includes subjecting the plastic-rich mixture to two or more tribelectrostatic separators in series.

51. (Previously Presented) The process of claim 47, wherein:

subjecting the plastic-rich mixture to a triboelectrostatic separation includes feeding one or more product streams from a first stage triboelectrostatic separator back into the first stage triboelectrostatic separator.

52. (Previously Presented) The process of claim 47, wherein:

subjecting the plastic-rich mixture to a triboelectrostatic separation includes feeding one or more product streams from a second stage triboelectrostatic separator to a first stage triboelectrostatic separator.

53. (Currently Amended) The process of claim 47, wherein:

subjecting the plastic-rich mixture to a triboelectrostatic separation includes subjecting one or more product streams from a tribelectrostatic separator to a surface to mass control operation, followed by a subsequent ~~a~~ triboelectrostatic separation.

54. (Withdrawn) The process of claim 15, wherein:

receiving a plastic-rich mixture includes receiving a mixture of ABS and HIPS; and

collecting a recycled plastic material includes collecting a first output and a second output, wherein the first output has a higher percentage of ABS than the plastic-rich mixture and the second output has a higher percentage of HIPS than the plastic-rich mixture.

55. (Withdrawn) The process of claim 15, wherein:

receiving a plastic-rich mixture includes receiving a mixture including a first plastic type, wherein a first portion of the first plastic type has a first property and a second portion of the first plastic type has a second property; and

collecting a recycled plastic material includes collecting a first output and a second output, wherein the first output includes a higher percentage of the first plastic type than the plastic-rich mixture and the second output includes a higher percentage of the second plastic type than the plastic-rich mixture and the first output.

56. (Canceled)

57. (Previously Presented) The process of claim 15, wherein:

the separation process that is enhanced by the narrow surface to mass distribution is a triboelectrostatic separation; and

collecting a recycled plastic material includes collecting a first output and a second output, wherein the first output includes ABS and the second output includes SAN, the first output has a lower percentage of SAN than the second output and the second output has a lower percentage of ABS than the first output.

58. (Withdrawn) The process of claim 15, wherein:

the blending step combines a first stream including ABS with a second stream including SAN.

59. (Previously Presented) The process of claim 15, wherein:

the separation process that is enhanced by the narrow surface to mass distribution is a triboelectrostatic separation to separate PC and ABS from flame retarded ABS and to separate a PC/ABS blend from flame retarded ABS.

60. (Previously Presented) The process of claim 15, wherein:

the separation process that is enhanced by the narrow surface to mass distribution is a triboelectrostatic separation to separate flame retarded HIPS from non-flame retarded HIPS.

61-62. (Canceled)

63. (Withdrawn) The process of claim 15, wherein:

subjecting the plastic-rich mixture to an extrusion step includes subjecting the plastic-rich mixture to extrusion compounding with screen packing.

64. (Withdrawn) The process of claim 15, wherein:

subjecting the plastic-rich mixture to an extrusion step includes subjecting the plastic-rich mixture to extrusion compounding with two or more stages of screen packing with increasingly finer mesh screening.

65. (Withdrawn) The process of claim 15, wherein:

receiving a plastic-rich mixture includes receiving a plastic containing bromine; and

collecting a recycled plastic material includes collecting a first output including at least a portion of the plastic containing bromine and collecting a second output substantially free of the plastic containing bromine.

66. (Withdrawn) The process of claim 65, wherein:

subjecting the plastic-rich mixture to a sequence of processes includes one or more of gravity concentration, color sorting, detecting and selectively ejecting materials containing bromine, triboelectrostatic separation or thickness sorting.

67. (Withdrawn) The process of claim 15, wherein:

collecting a recycled plastic material includes collecting engineering thermoplastics.

68. (Withdrawn) The process of claim 15, wherein the sequence of processes includes a triboelectrostatic separation after a gravity concentration operation.

69-71. (Canceled)